

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

Claim 1 (Currently Amended): A synchronous rectifier circuit, comprising:

a transformer that includes a primary winding, a secondary winding, and an auxiliary winding connected via one end of the auxiliary winding to one end of the secondary winding, said transformer insulating a secondary winding side from a primary winding side;

a diode connected via an anode to another end of the auxiliary winding;

an auxiliary switch connected to said another end of the auxiliary winding via a resistor connected to a base, said auxiliary switch being connected to said one end of the secondary winding and to said one end of the auxiliary winding via a collector; and

a rectifier switch connected via a gate to a cathode of the diode and to an emitter of the auxiliary switch, and via a drain to another end of the secondary winding.

Claim 2 (Original): The synchronous rectifier circuit according to claim 1, wherein the auxiliary switch is formed by a PNP transistor or a P-channel MOSFET.

Claim 3 (New): A rectifier circuit, comprising:

Atsuhiro TOBITA
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a transformer including a primary winding, a secondary winding, and an auxiliary winding having a first end coupled to a first end of the secondary winding, wherein the secondary winding side of the transformer is insulated from the primary winding side;

a diode having an anode coupled to a second end of the auxiliary winding;

an auxiliary switch having a control terminal coupled to the second end of the auxiliary winding via a resistor and a first switch terminal coupled to the first end of the secondary winding and to the first end of the auxiliary winding; and

a rectifier switch having a gate coupled to a cathode of the diode and to a second switch terminal of the auxiliary switch, and a drain coupled to a second end of the secondary winding.

Claim 4 (New): The rectifier circuit according to claim 3, wherein the auxiliary switch comprises a PNP transistor.

Claim 5 (New): The rectifier circuit according to claim 3, wherein the auxiliary switch comprises a P-channel MOSFET.